

November 14, 2017

(b) (4)

Weston Solutions Inc. - Wst Chstr
1400 Weston Way
West Chester, PA 19380

Certificate of Analysis

Project Name: **30250.016.001.0173.00**Workorder: **2273568**Purchase Order: **0095617**Workorder ID: **WAR022|30250.016.001.0173.00**

Dear (b) (4):

Enclosed are the analytical results for samples received by the laboratory on Thursday, November 2, 2017.

The ALS Environmental laboratory in Middletown, Pennsylvania is a National Environmental Laboratory Accreditation Program (NELAP) accredited laboratory and as such, certifies that all applicable test results meet the requirements of NELAP.

If you have any questions regarding this certificate of analysis, please contact Ms. Susan J Scherer (Project Coordinator) at (717) 944-5541.

Analyses were performed according to our laboratory's NELAP-approved quality assurance program and any applicable state requirements. The test results meet requirements of the current NELAP standards or state requirements, where applicable. For a specific list of accredited analytes, refer to the certifications section of the ALS website at www.alsglobal.com/en/Our-Services/Life-Sciences/Environmental/Downloads.

This laboratory report may not be reproduced, except in full, without the written approval of ALS Environmental.

ALS Spring City: 10 Riverside Drive, Spring City, PA 19475 610-948-4903

CC: (b) (4)

(b) (4)

This page is included as part of the Analytical Report and must be retained as a permanent record thereof.

Project Coordinator

ALS Environmental Laboratory Locations Across North America

Canada: Burlington · Calgary · Centre of Excellence · Edmonton · Fort McMurray · Fort St. John · Grande Prairie · London · Mississauga · Richmond Hill · Saskatoon · Thunder Bay
Vancouver Waterloo · Winnipeg · Yellowknife United States: Cincinnati · Everett · Fort Collins · Holland · Houston · Middletown · Salt Lake City · Spring City · York Mexico: Monterrey

**SAMPLE SUMMARY**

Workorder: 2273568 WAR022|30250.016.001.0173.00

Lab ID	Sample ID	Matrix	Date Collected	Date Received	Collected By
2273568001	MC0AB4	Solid	11/1/2017 17:00	11/2/2017 20:10	(b) (4)
2273568002	MC0AB5	Solid	11/1/2017 17:40	11/2/2017 20:10	(b) (4)
2273568003	MC0AB6	Solid	11/1/2017 17:42	11/2/2017 20:10	(b) (4)
2273568004	MC0AB5	Solid	11/1/2017 17:40	11/2/2017 20:10	Collected by Client

ALS Environmental Laboratory Locations Across North America

Canada: Burlington · Calgary · Centre of Excellence · Edmonton · Fort McMurray · Fort St. John · Grande Prairie · London · Mississauga · Richmond Hill · Saskatoon · Thunder Bay
Vancouver Waterloo · Winnipeg · Yellowknife **United States:** Cincinnati · Everett · Fort Collins · Holland · Houston · Middletown · Salt Lake City · Spring City · York **Mexico:** Monterrey

SAMPLE SUMMARY

Workorder: 2273568 WAR022|30250.016.001.0173.00

Notes

- Samples collected by ALS personnel are done so in accordance with the procedures set forth in the ALS Field Sampling Plan (20 - Field Services Sampling Plan).
- All Waste Water analyses comply with methodology requirements of 40 CFR Part 136.
- All Drinking Water analyses comply with methodology requirements of 40 CFR Part 141.
- Unless otherwise noted, all quantitative results for soils are reported on a dry weight basis.
- The Chain of Custody document is included as part of this report.
- All Library Search analytes should be regarded as tentative identifications based on the presumptive evidence of the mass spectra. Concentrations reported are estimated values.
- Parameters identified as "analyze immediately" require analysis within 15 minutes of collection. Any "analyze immediately" parameters not listed under the header "Field Parameters" are performed in the laboratory and are therefore analyzed out of hold time.
- Method references listed on this report beginning with the prefix "S" followed by a method number (such as S2310B-97) refer to methods from "Standard Methods for the Examination of Water and Wastewater".
- For microbiological analyses, the "Prepared" value is the date/time into the incubator and the "Analyzed" value is the date/time out the incubator.

Standard Acronyms/Flags

J	Indicates an estimated value between the Method Detection Limit (MDL) and the Practical Quantitation Limit (PQL) for the analyte
U	Indicates that the analyte was Not Detected (ND)
N	Indicates presumptive evidence of the presence of a compound
MDL	Method Detection Limit
PQL	Practical Quantitation Limit
RDL	Reporting Detection Limit
ND	Not Detected - indicates that the analyte was Not Detected at the RDL
Cntr	Analysis was performed using this container
RegLmt	Regulatory Limit
LCS	Laboratory Control Sample
MS	Matrix Spike
MSD	Matrix Spike Duplicate
DUP	Sample Duplicate
%Rec	Percent Recovery
RPD	Relative Percent Difference
LOD	DoD Limit of Detection
LOQ	DoD Limit of Quantitation
DL	DoD Detection Limit
I	Indicates reported value is greater than or equal to the Method Detection Limit (MDL) but less than the Report Detection Limit (RDL)
(S)	Surrogate Compound
NC	Not Calculated
*	Result outside of QC limits

ALS Environmental Laboratory Locations Across North America

Canada: Burlington · Calgary · Centre of Excellence · Edmonton · Fort McMurray · Fort St. John · Grande Prairie · London · Mississauga · Richmond Hill · Saskatoon · Thunder Bay
Vancouver Waterloo · Winnipeg · Yellowknife **United States:** Cincinnati · Everett · Fort Collins · Holland · Houston · Middletown · Salt Lake City · Spring City · York **Mexico:** Monterrey

ANALYTICAL RESULTS

Workorder: 2273568 WAR022|30250.016.001.0173.00

Lab ID: **2273568001**
Sample ID: **MC0AB4**

Date Collected: 11/1/2017 17:00 Matrix: Solid
Date Received: 11/2/2017 20:10

Parameters	Results	Flag	Units	RDL	MDL	Method	Prepared By	Analyzed	By	Cntr
WET CHEMISTRY										
Moisture	26.2		%	0.1	0.01	S2540G-11		11/9/17 14:24	AXD	
Total Solids	73.8		%	0.1	0.01	S2540G-11		11/9/17 14:24	AXD	
METALS										
Aluminum, Total	2650		mg/kg	665	221	SW846 6010C	11/13/17 02:30 LXC	11/14/17 13:15	SRT	A1
Antimony, Total	11100		mg/kg	133	44.3	SW846 6010C	11/13/17 02:30 LXC	11/14/17 13:15	SRT	A1
Arsenic, Total	133 U	U	mg/kg	133	44.3	SW846 6010C	11/13/17 02:30 LXC	11/14/17 13:15	SRT	A1
Barium, Total	366		mg/kg	66.5	22.1	SW846 6010C	11/13/17 02:30 LXC	11/14/17 13:15	SRT	A1
Beryllium, Total	66.5 U	U	mg/kg	66.5	22.1	SW846 6010C	11/13/17 02:30 LXC	11/14/17 13:15	SRT	A1
Cadmium, Total	33.2 U	U	mg/kg	33.2	11.1	SW846 6010C	11/13/17 02:30 LXC	11/14/17 13:15	SRT	A1
Calcium, Total	8210		mg/kg	665	221	SW846 6010C	11/13/17 02:30 LXC	11/14/17 13:15	SRT	A1
Chromium, Total	66.5 U	U	mg/kg	66.5	22.1	SW846 6010C	11/13/17 02:30 LXC	11/14/17 13:15	SRT	A1
Cobalt, Total	66.5 U	U	mg/kg	66.5	22.1	SW846 6010C	11/13/17 02:30 LXC	11/14/17 13:15	SRT	A1
Copper, Total	49.2J	J	mg/kg	133	44.3	SW846 6010C	11/13/17 02:30 LXC	11/14/17 13:15	SRT	A1
Iron, Total	13400		mg/kg	665	221	SW846 6010C	11/13/17 02:30 LXC	11/14/17 13:15	SRT	A1
Lead, Total	58.5J	J	mg/kg	133	44.3	SW846 6010C	11/13/17 02:30 LXC	11/14/17 13:15	SRT	A1
Magnesium, Total	1400		mg/kg	665	221	SW846 6010C	11/13/17 02:30 LXC	11/14/17 13:15	SRT	A1
Manganese, Total	95.7		mg/kg	66.5	22.1	SW846 6010C	11/13/17 02:30 LXC	11/14/17 13:15	SRT	A1
Mercury, Total	0.063 U	U	mg/kg	0.063	0.020	SW846 7471B	11/13/17 11:00 AXC	11/13/17 13:36	AXC	A2
Nickel, Total	133 U	U	mg/kg	133	44.3	SW846 6010C	11/13/17 02:30 LXC	11/14/17 13:15	SRT	A1
Potassium, Total	3320 U	U	mg/kg	3320	1110	SW846 6010C	11/13/17 02:30 LXC	11/14/17 13:15	SRT	A1
Selenium, Total	332 U	U	mg/kg	332	111	SW846 6010C	11/13/17 02:30 LXC	11/14/17 13:15	SRT	A1
Silver, Total	33.2 U	U	mg/kg	33.2	11.1	SW846 6010C	11/13/17 02:30 LXC	11/14/17 13:15	SRT	A1
Sodium, Total	3320 U	U	mg/kg	3320	1110	SW846 6010C	11/13/17 02:30 LXC	11/14/17 13:15	SRT	A1
Thallium, Total	199 U	U	mg/kg	199	66.5	SW846 6010C	11/13/17 02:30 LXC	11/14/17 13:15	SRT	A1
Vanadium, Total	66.5 U	U	mg/kg	66.5	22.1	SW846 6010C	11/13/17 02:30 LXC	11/14/17 13:15	SRT	A1
Zinc, Total	32800		mg/kg	133	44.3	SW846 6010C	11/13/17 02:30 LXC	11/14/17 13:15	SRT	A1

(b) (4)

Project Coordinator

ALS Environmental Laboratory Locations Across North America

Canada: Burlington · Calgary · Centre of Excellence · Edmonton · Fort McMurray · Fort St. John · Grande Prairie · London · Mississauga · Richmond Hill · Saskatoon · Thunder Bay
Vancouver Waterloo · Winnipeg · Yellowknife United States: Cincinnati · Everett · Fort Collins · Holland · Houston · Middletown · Salt Lake City · Spring City · York Mexico: Monterrey

ANALYTICAL RESULTS

Workorder: 2273568 WAR022|30250.016.001.0173.00

Lab ID: **2273568002**

Date Collected: 11/1/2017 17:40

Matrix: Solid

Sample ID: **MC0AB5**

Date Received: 11/2/2017 20:10

Parameters	Results	Flag	Units	RDL	MDL	Method	Prepared By	Analyzed	By	Cntr
WET CHEMISTRY										
Moisture	44.5		%	0.1	0.01	S2540G-11		11/9/17 14:24	AXD	
Total Solids	55.5	7	%	0.1	0.01	S2540G-11		11/9/17 14:24	AXD	
METALS										
Aluminum, Total	2300		mg/kg	16.4	5.5	SW846 6010C	11/13/17 02:30 LXC	11/14/17 09:23	SRT	A1
Antimony, Total	47.0	2	mg/kg	3.3	1.1	SW846 6010C	11/13/17 02:30 LXC	11/14/17 09:23	SRT	A1
Arsenic, Total	2.5J	J	mg/kg	3.3	1.1	SW846 6010C	11/13/17 02:30 LXC	11/14/17 09:23	SRT	A1
Barium, Total	39.5		mg/kg	1.6	0.55	SW846 6010C	11/13/17 02:30 LXC	11/14/17 09:23	SRT	A1
Beryllium, Total	1.6 U	U	mg/kg	1.6	0.55	SW846 6010C	11/13/17 02:30 LXC	11/14/17 09:23	SRT	A1
Cadmium, Total	0.44J	J	mg/kg	0.82	0.27	SW846 6010C	11/13/17 02:30 LXC	11/14/17 09:23	SRT	A1
Calcium, Total	6510		mg/kg	16.4	5.5	SW846 6010C	11/13/17 02:30 LXC	11/14/17 09:23	SRT	A1
Chromium, Total	16.8		mg/kg	1.6	0.55	SW846 6010C	11/13/17 02:30 LXC	11/14/17 09:23	SRT	A1
Cobalt, Total	2.2		mg/kg	1.6	0.55	SW846 6010C	11/13/17 02:30 LXC	11/14/17 09:23	SRT	A1
Copper, Total	222	3	mg/kg	3.3	1.1	SW846 6010C	11/13/17 02:30 LXC	11/14/17 09:23	SRT	A1
Iron, Total	19000		mg/kg	16.4	5.5	SW846 6010C	11/13/17 02:30 LXC	11/14/17 09:23	SRT	A1
Lead, Total	28.4		mg/kg	3.3	1.1	SW846 6010C	11/13/17 02:30 LXC	11/14/17 09:23	SRT	A1
Magnesium, Total	1040		mg/kg	16.4	5.5	SW846 6010C	11/13/17 02:30 LXC	11/14/17 09:23	SRT	A1
Manganese, Total	138	4	mg/kg	1.6	0.55	SW846 6010C	11/13/17 02:30 LXC	11/14/17 09:23	SRT	A1
Mercury, Total	0.083 U	U,1	mg/kg	0.083	0.027	SW846 7471B	11/13/17 11:00 AXC	11/13/17 13:39	AXC	A2
Nickel, Total	31.9		mg/kg	3.3	1.1	SW846 6010C	11/13/17 02:30 LXC	11/14/17 09:23	SRT	A1
Potassium, Total	303		mg/kg	82.0	27.4	SW846 6010C	11/13/17 02:30 LXC	11/14/17 09:23	SRT	A1
Selenium, Total	8.2 U	U	mg/kg	8.2	2.7	SW846 6010C	11/13/17 02:30 LXC	11/14/17 09:23	SRT	A1
Silver, Total	0.82 U	U	mg/kg	0.82	0.27	SW846 6010C	11/13/17 02:30 LXC	11/14/17 09:23	SRT	A1
Sodium, Total	3020	6	mg/kg	82.0	27.4	SW846 6010C	11/13/17 02:30 LXC	11/14/17 09:23	SRT	A1
Thallium, Total	4.9 U	U	mg/kg	4.9	1.6	SW846 6010C	11/13/17 02:30 LXC	11/14/17 09:23	SRT	A1
Vanadium, Total	6.0		mg/kg	1.6	0.55	SW846 6010C	11/13/17 02:30 LXC	11/14/17 09:23	SRT	A1
Zinc, Total	620	5	mg/kg	3.3	1.1	SW846 6010C	11/13/17 02:30 LXC	11/14/17 09:23	SRT	A1

(b) (4)

Project Coordinator

ALS Environmental Laboratory Locations Across North America

Canada: Burlington · Calgary · Centre of Excellence · Edmonton · Fort McMurray · Fort St. John · Grande Prairie · London · Mississauga · Richmond Hill · Saskatoon · Thunder Bay
Vancouver Waterloo · Winnipeg · Yellowknife United States: Cincinnati · Everett · Fort Collins · Holland · Houston · Middletown · Salt Lake City · Spring City · York Mexico: Monterrey

ANALYTICAL RESULTS

Workorder: 2273568 WAR022|30250.016.001.0173.00

Lab ID: **2273568003**

Date Collected: 11/1/2017 17:42

Matrix: Solid

Sample ID: **MC0AB6**

Date Received: 11/2/2017 20:10

Parameters	Results	Flag	Units	RDL	MDL	Method	Prepared By	Analyzed	By	Cntr
WET CHEMISTRY										
Moisture	40.6		%	0.1	0.01	S2540G-11		11/9/17 14:24	AXD	
Total Solids	59.4	1	%	0.1	0.01	S2540G-11		11/9/17 14:24	AXD	
METALS										
Aluminum, Total	2280		mg/kg	16.5	5.5	SW846 6010C	11/13/17 02:30 LXC	11/14/17 09:33	SRT	A1
Antimony, Total	36.4		mg/kg	3.3	1.1	SW846 6010C	11/13/17 02:30 LXC	11/14/17 09:33	SRT	A1
Arsenic, Total	3.6		mg/kg	3.3	1.1	SW846 6010C	11/13/17 02:30 LXC	11/14/17 09:33	SRT	A1
Barium, Total	46.9		mg/kg	1.7	0.55	SW846 6010C	11/13/17 02:30 LXC	11/14/17 09:33	SRT	A1
Beryllium, Total	1.7 U	U	mg/kg	1.7	0.55	SW846 6010C	11/13/17 02:30 LXC	11/14/17 09:33	SRT	A1
Cadmium, Total	0.50J	J	mg/kg	0.83	0.28	SW846 6010C	11/13/17 02:30 LXC	11/14/17 09:33	SRT	A1
Calcium, Total	6160		mg/kg	16.5	5.5	SW846 6010C	11/13/17 02:30 LXC	11/14/17 09:33	SRT	A1
Chromium, Total	11.4		mg/kg	1.7	0.55	SW846 6010C	11/13/17 02:30 LXC	11/14/17 09:33	SRT	A1
Cobalt, Total	1.4J	J	mg/kg	1.7	0.55	SW846 6010C	11/13/17 02:30 LXC	11/14/17 09:33	SRT	A1
Copper, Total	166		mg/kg	3.3	1.1	SW846 6010C	11/13/17 02:30 LXC	11/14/17 09:33	SRT	A1
Iron, Total	17800		mg/kg	16.5	5.5	SW846 6010C	11/13/17 02:30 LXC	11/14/17 09:33	SRT	A1
Lead, Total	26.1		mg/kg	3.3	1.1	SW846 6010C	11/13/17 02:30 LXC	11/14/17 09:33	SRT	A1
Magnesium, Total	1120		mg/kg	16.5	5.5	SW846 6010C	11/13/17 02:30 LXC	11/14/17 09:33	SRT	A1
Manganese, Total	225		mg/kg	1.7	0.55	SW846 6010C	11/13/17 02:30 LXC	11/14/17 09:33	SRT	A1
Mercury, Total	0.075 U	U	mg/kg	0.075	0.024	SW846 7471B	11/13/17 11:00 AXC	11/13/17 13:43	AXC	A2
Nickel, Total	54.2		mg/kg	3.3	1.1	SW846 6010C	11/13/17 02:30 LXC	11/14/17 09:33	SRT	A1
Potassium, Total	411		mg/kg	82.6	27.6	SW846 6010C	11/13/17 02:30 LXC	11/14/17 09:33	SRT	A1
Selenium, Total	5.3J	J	mg/kg	8.3	2.8	SW846 6010C	11/13/17 02:30 LXC	11/14/17 09:33	SRT	A1
Silver, Total	0.83 U	U	mg/kg	0.83	0.28	SW846 6010C	11/13/17 02:30 LXC	11/14/17 09:33	SRT	A1
Sodium, Total	3090		mg/kg	82.6	27.6	SW846 6010C	11/13/17 02:30 LXC	11/14/17 09:33	SRT	A1
Thallium, Total	5.0 U	U	mg/kg	5.0	1.7	SW846 6010C	11/13/17 02:30 LXC	11/14/17 09:33	SRT	A1
Vanadium, Total	5.0		mg/kg	1.7	0.55	SW846 6010C	11/13/17 02:30 LXC	11/14/17 09:33	SRT	A1
Zinc, Total	709		mg/kg	3.3	1.1	SW846 6010C	11/13/17 02:30 LXC	11/14/17 09:33	SRT	A1

(b) (4)

Project Coordinator

ALS Environmental Laboratory Locations Across North America

Canada: Burlington · Calgary · Centre of Excellence · Edmonton · Fort McMurray · Fort St. John · Grande Prairie · London · Mississauga · Richmond Hill · Saskatoon · Thunder Bay
Vancouver Waterloo · Winnipeg · Yellowknife United States: Cincinnati · Everett · Fort Collins · Holland · Houston · Middletown · Salt Lake City · Spring City · York Mexico: Monterrey

ANALYTICAL RESULTS

Workorder: 2273568 WAR022|30250.016.001.0173.00

Lab ID: **2273568004**

Date Collected: 11/1/2017 17:40

Matrix: Solid

Sample ID: **MC0AB5**

Date Received: 11/2/2017 20:10

Parameters	Results	Flag	Units	RDL	MDL	Method	Prepared By	Analyzed	By	Cntr
WET CHEMISTRY										
Moisture	44.5		%	0.1	0.01	S2540G-11		11/9/17 14:24	AXD	
Total Solids	55.5		%	0.1	0.01	S2540G-11		11/9/17 14:24	AXD	
METALS										
Aluminum, Total	2570		mg/kg	15.8	5.3	SW846 6010C	11/13/17 02:30 LXC	11/14/17 09:30	SRT	A1
Antimony, Total	1490		mg/kg	3.2	1.1	SW846 6010C	11/13/17 02:30 LXC	11/14/17 09:30	SRT	A1
Arsenic, Total	3.8		mg/kg	3.2	1.1	SW846 6010C	11/13/17 02:30 LXC	11/14/17 09:30	SRT	A1
Barium, Total	64.9		mg/kg	1.6	0.53	SW846 6010C	11/13/17 02:30 LXC	11/14/17 09:30	SRT	A1
Beryllium, Total	1.6 U	U	mg/kg	1.6	0.53	SW846 6010C	11/13/17 02:30 LXC	11/14/17 09:30	SRT	A1
Cadmium, Total	0.41J	J	mg/kg	0.79	0.26	SW846 6010C	11/13/17 02:30 LXC	11/14/17 09:30	SRT	A1
Calcium, Total	11500		mg/kg	15.8	5.3	SW846 6010C	11/13/17 02:30 LXC	11/14/17 09:30	SRT	A1
Chromium, Total	13.1		mg/kg	1.6	0.53	SW846 6010C	11/13/17 02:30 LXC	11/14/17 09:30	SRT	A1
Cobalt, Total	1.8		mg/kg	1.6	0.53	SW846 6010C	11/13/17 02:30 LXC	11/14/17 09:30	SRT	A1
Copper, Total	180		mg/kg	3.2	1.1	SW846 6010C	11/13/17 02:30 LXC	11/14/17 09:30	SRT	A1
Iron, Total	23500		mg/kg	15.8	5.3	SW846 6010C	11/13/17 02:30 LXC	11/14/17 09:30	SRT	A1
Lead, Total	38.7		mg/kg	3.2	1.1	SW846 6010C	11/13/17 02:30 LXC	11/14/17 09:30	SRT	A1
Magnesium, Total	1560		mg/kg	15.8	5.3	SW846 6010C	11/13/17 02:30 LXC	11/14/17 09:30	SRT	A1
Manganese, Total	232		mg/kg	1.6	0.53	SW846 6010C	11/13/17 02:30 LXC	11/14/17 09:30	SRT	A1
Mercury, Total	0.082 U	U	mg/kg	0.082	0.026	SW846 7471B	11/13/17 11:00 AXC	11/13/17 13:42	AXC	A2
Nickel, Total	21.8		mg/kg	3.2	1.1	SW846 6010C	11/13/17 02:30 LXC	11/14/17 09:30	SRT	A1
Potassium, Total	293		mg/kg	79.1	26.4	SW846 6010C	11/13/17 02:30 LXC	11/14/17 09:30	SRT	A1
Selenium, Total	4.1J	J	mg/kg	7.9	2.6	SW846 6010C	11/13/17 02:30 LXC	11/14/17 09:30	SRT	A1
Silver, Total	0.79 U	U	mg/kg	0.79	0.26	SW846 6010C	11/13/17 02:30 LXC	11/14/17 09:30	SRT	A1
Sodium, Total	2940		mg/kg	79.1	26.4	SW846 6010C	11/13/17 02:30 LXC	11/14/17 09:30	SRT	A1
Thallium, Total	4.7 U	U	mg/kg	4.7	1.6	SW846 6010C	11/13/17 02:30 LXC	11/14/17 09:30	SRT	A1
Vanadium, Total	7.3		mg/kg	1.6	0.53	SW846 6010C	11/13/17 02:30 LXC	11/14/17 09:30	SRT	A1
Zinc, Total	1010		mg/kg	3.2	1.1	SW846 6010C	11/13/17 02:30 LXC	11/14/17 09:30	SRT	A1

(b) (4)

Project Coordinator

ALS Environmental Laboratory Locations Across North America

Canada: Burlington · Calgary · Centre of Excellence · Edmonton · Fort McMurray · Fort St. John · Grande Prairie · London · Mississauga · Richmond Hill · Saskatoon · Thunder Bay
Vancouver Waterloo · Winnipeg · Yellowknife United States: Cincinnati · Everett · Fort Collins · Holland · Houston · Middletown · Salt Lake City · Spring City · York Mexico: Monterrey

ANALYTICAL RESULTS

Workorder: 2273568 WAR022|30250.016.001.0173.00

PARAMETER QUALIFIERS

Lab ID	#	Sample ID	Analytical Method	Analyte
2273568002	1	MC0AB5	SW846 7471B	Mercury, Total
The recovery of the Matrix Spike (MS) associated to this analyte was outside of the established control limits. The sample was post-digestion spiked, and this matrix spike was within acceptable recovery limits.				
2273568002	2	MC0AB5	SW846 6010C	Antimony, Total
The recovery of the Matrix Spike (MS) associated to this analyte was outside of the established control limits. The sample was post-digestion spiked, and this matrix spike was within acceptable recovery limits.				
2273568002	3	MC0AB5	SW846 6010C	Copper, Total
The recovery of the Matrix Spike (MS) associated to this analyte was outside of the established control limits. The sample was post-digestion spiked, and this matrix spike was within acceptable recovery limits.				
2273568002	4	MC0AB5	SW846 6010C	Manganese, Total
The recovery of the Matrix Spike (MS) associated to this analyte was outside of the established control limits. The sample was post-digestion spiked, and this matrix spike was within acceptable recovery limits.				
2273568002	5	MC0AB5	SW846 6010C	Zinc, Total
The recovery of the Matrix Spike (MS) associated to this analyte was outside of the established control limits. The sample was post-digestion spiked, and this matrix spike was within acceptable recovery limits.				
2273568002	6	MC0AB5	SW846 6010C	Sodium, Total
The recovery of the Matrix Spike (MS) associated to this analyte was outside of the established control limits. The sample was post-digestion spiked, and this matrix spike was within acceptable recovery limits.				
2273568002	7	MC0AB5	S2540G-11	Total Solids
The RPD associated with this sample was recovered at 11%. The RPD is outside method acceptance limits of 0-5%. The results used to calculate the RPD were 59.01 and 49.85.				
2273568003	1	MC0AB6	S2540G-11	Total Solids
The RPD associated with this sample was recovered at 8%. The RPD is outside method acceptance limits of 0-5%. The results used to calculate the RPD were 58.48 and 64.18.				

ALS Environmental Laboratory Locations Across North America

Canada: Burlington · Calgary · Centre of Excellence · Edmonton · Fort McMurray · Fort St. John · Grande Prairie · London · Mississauga · Richmond Hill · Saskatoon · Thunder Bay
Vancouver Waterloo · Winnipeg · Yellowknife United States: Cincinnati · Everett · Fort Collins · Holland · Houston · Middletown · Salt Lake City · Spring City · York Mexico: Monterrey

DateShipped: 11/2/2017

CarrierName: drop off

Airbill No: drop off

CHAIN OF CUSTODY RECORD

Site #: A37Y

Contact Name: Chuck Rapone

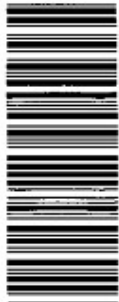
Contact Phone: 302-690-0398

No: 3-110217-111804-0005

DAS #- R35260

Lab: ALS Laboratory

Lab Phone: 717-944-5541



* 2 2 2 7 3 5 6 8 *

Lab #	Sample #	Location	Matrix	Collected	Sample Time	Numb Cont	Container	Preservative	Analyses	Lab QC
	PFS-AS-110117-02	PFS-AS-110117-02	Ash	11/1/2017	17:40	1	1 L glass Amber	4 C	PCB, Pesticides, SVOC	Y
	PFS-AS-110117-02-D	PFS-AS-110117-02-D	Ash	11/1/2017	17:42	1	1 L glass Amber	4 C	PCB, Pesticides, SVOC	N
	PFS-AS-110117-01	PFS-AS-110117-01	Ash	11/1/2017	17:00	1	1 L glass Amber	4 C	PCB, Pesticides, SVOC	N
	PFS-AS-110117-01	PFS-AS-110117-01	Ash	11/1/2017	17:00	1	1 L glass Amber	4 C	ICP-AES Metals, Mercury	N
	PFS-AS-110117-02	PFS-AS-110117-02	Ash	11/1/2017	17:40	1	1 L glass Amber	4 C	ICP-AES Metals, mercury	Y
	PFS-AS-110117-02-D	PFS-AS-110117-02-D	Ash	11/1/2017	17:42	1	1 L glass Amber	4 C	ICP-AES Metals, Mercury	N

11/02/17 [REDACTED] (46)

Produce separate reports for inorganics and organics. Follow protocol Scope for data.

Justify Seals Present? ☒ Y ☐ N Initials [REDACTED]

If present) Seals Intact? ☒ Y ☐ N Initials [REDACTED]

received on Ice? ☒ Y ☐ N Initials [REDACTED]

COC/bits Complete ☒ Y ☐ N Initials [REDACTED]

Cont in Good Cond? ☒ Y ☐ N Initials [REDACTED]

Correct Containers? ☒ Y ☐ N Initials [REDACTED]

Correct Smp Vol? ☒ Y ☐ N Initials [REDACTED]

Correct Preservation? ☒ Y ☐ N Initials [REDACTED]

headsapce/Volatiles? ☒ Y ☐ N Initials [REDACTED]

Cooler Temp: 2 °C Cooler #: Therm ID: 402 Ship Carrier: FedEx U.S. DHL

SAMPLES TRANSFERRED FROM CHAIN OF CUSTODY #

Special Instructions: MS/MSD Sample is PFS-AS-110117-02 Tracking #

Special Instructions: MS/MSD Sample is PFS-AS-116' 17-02

Items/Reson	Relinquished by (Signature and Organization)	Date/Time	Received by (Signature and Organization)	Date/Time	Sample Condition Upon Receipt
	(b) (4)	11/12/17	gpc NS	11/2/17 2010	GOOD

DateShipped: 11/2/2017
CarrierName: drop off
AirbillNo: drop off

CHAIN OF CUSTODY RECORD

Site #: A37Y
Contact Name: Chuck Rapone
Contact Phone: 302-590-0398

No: 3-110217-111804-0005
Cooler # 1
Lab: ALS Laboratory
Lab Phone: 717-944-5541

[illegible]

Special Instructions: MS/MSD Sample is PFS-AS-110117-02

SAMPLES TRANSFERRED FROM
CHAIN OF CUSTODY #

[illegible]

Attachment 1

REGION 3 DELIVERY OF ANALYTICAL SERVICES (DAS)
SAMPLE DELIVERY GROUP (SDG)
COVER SHEETLaboratory Name: ALS - MIDDLETOWN

Laboratory Code: _____

Case or DAS No: 315 11/02/17
A37X R35260SDG No: First Sample in SDG: C0ABS
(Lowest EPA Sample Number in first shipment
received under SDG.)Sample Receipt Date: 11/02/2017
mm/dd/yyyyLast Sample in SDG: MC0AB6
(Highest EPA Sample Number in last shipment
of samples received under SDG.)Sample Receipt Date: 11/02/2017
mm/dd/yyyy

EPA Sample Numbers in the SDG (List in alphanumeric order):

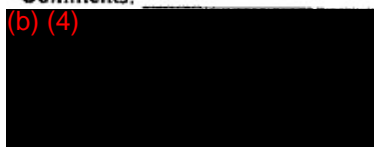
1. C0ABS
2. C0AB6
3. C0AB4
4. MC0AB4
5. MC0ABS
6. MC0AB6
7. _____
8. _____
9. _____
10. _____

11. _____
12. _____
13. _____
14. _____
15. _____
16. _____
17. _____
18. _____
19. _____
20. _____

Note: There are a maximum of 20 field samples in an SDG.

Comments:

(b) (4)



Print Name

SAMPLE REC. TECH

Title

11/03/2017

Date

Please make copies of this form and complete one form per SDG and e-mail the completed form within 3 days of receipt of the last sample received for each SDG to the WESTON Project Chemist. Include this form after the DAS Case narrative as a deliverable in the final hardcopy data package.

Attachment 2

Region III DC-1 SAMPLE LOG-IN SHEET

DC-1 PAGE 1 OF 2

LOG-IN DATE:

11/03/17

DAS No.:

SS 11-03/17
A37Y R35260

LAB NAME: ALS - MIDDLE TOWN

SDG No.:

RECEIVED BY:

(b) (4)

SIGNATURE:

CHECK THE APPROPRIATE RESPONSE:

	PRESENT	ABSENT	INTACT	BROKEN
1. CUSTODY SEAL(S)		X		
2. CHAIN OF CUSTODY (COC) RECORD	X			
3. TRAFFIC REPORT OR PACKING LIST		X		
4. AIRBILL / STICKER		X		
5. SAMPLE TAGS	X			
6. SAMPLE TAG NUMBERS ON CHAIN OF CUSTODY	X			
7. DATE RECEIVED BY LAB:	X			
8. TIME RECEIVED:	X			
9. DOES INFORMATION AGREE ON COC AND SAMPLE TAGS	X			
10. AIRBILL NUMBER		X		

SAMPLE TRANSFER		
FRACTION	DATE	BY

REVIEWED BY:

DATE:

LOGBOOK NO.:

LOGBOOK PAGE NO.:

Region 3 - Form DC-1

Attachment 3
DC- 2 Data Package Inventory Checklist

Lab Name:	DAS Number:	SDG Number:
City:	State:	Zip Code:
Order Number:	Parameter:	

	Page Numbering		Check/Verification	
	From	TO	Lab	EPA
Inventory Sheet	XXXXXXX	XXXXXXX		
SDG Narrative	1			
SDG Cover Sheet with COCs				
QC Data				
Sample Data				
Standard Data				
Blank Data				
Raw Data				
Preparation Logs				
Clean-up Logs				
Analysis Logs				
Internal Chain of Custody Logs				
Shipping / Receiving Documents				
Telephone / e-mail Logs				
Other Records				

Organization	Lab Inventory	Region 3 Auditor	EPA Verifier
Print Name			
Title			
Date			
Signature			